



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
Four Penn Center – 1600 John F Kennedy Blvd
Philadelphia, Pennsylvania 19103-2852

Report Title: Clean Air Act Inspection of Cronimet Specialty Metals USA, Inc.
Inspection Date(s): 09/14/2022
Regulatory Program(s): State Natural Minor Operating Permit
Company Name: Cronimet Specialty Metals USA, Inc.
Facility Name: Cronimet Specialty Metals USA, Inc./Wheatland
Facility Location: 40 Council Ave.
Wheatland, PA 16161
Latitude: 41.1965 **Longitude:** -80.49227
County/Parish: Mercer County
AFS Number: ICIS# PA000781574
Permit Number:
NAICS Code: 331529 **SIC:** 3341
Unique Project #: 3E22CA039A

Facility Representatives: **Point of Contact**

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EPA Lead Inspector

Signature	Stafford Stewart	Date
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Supervisor

Signature	Erin Malone	Date
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Table of Contents

<u>Section</u>	<u>Page</u>
I Introduction.....	3
A Summary of the Facility.....	3
B Inspection Opening Conference.....	3
II Site Activity/Process Information.....	4
III Observations.....	5
III Records Review.....	7
V Closing Conference.....	7
VI List of Attachments.....	8

I. Introduction

The United States Environmental Protection Agency (EPA) conducted a Clean Air Act (CAA) inspection at Cronimet Specialty Metals USA, Inc. (Cronimet – Wheatland, Cronimet or Facility) to verify compliance with applicable State and Federal regulations. Pennsylvania Department of Environmental Protection (PADEP) was notified of the inspection on August 30, 2022, via email. On September 8, 2022, EPA notified the Facility of the planned inspection via phone and email. EPA emailed a list of records for review to Tina Shacklock, General Manager of Cronimet-Wheatland, prior to the inspection (see Attachment 1). These records are listed in the Records Review section of the report.

A. Summary of the Facility

The Facility is located at 40 Council Ave., Wheatland, PA 16161. Specialty metals manufacturing commenced operations at this site in 1999, the Facility was owned at that time by Kalco Metals, Inc., (Kalco). In October 2010, PM Recovery, Inc., a metals recycling company based in Harrison, New York purchased Kalco and commenced operations under the name of PM Kalco, Inc. In February 2016 ownership of PM Kalco, Inc. was transferred to Cronimet Specialty Metals, Inc. and the Facility began operating under that new name.

Cronimet – Wheatland is a metal recovery and ingot manufacturing facility; they supply specialty alloys to the investment casting industry in the form of 15-lb ingots, sieved shots and metallic powders. Currently about 75% of the products manufactured are ingots and about 25% are shots and metallic powders. The alloys manufactured are cobalt-based, nickel-based and stainless steel. The Facility currently employs 30 persons, and operates 3 to 5 days per week, 24 hrs. per day, depending on business demands.

The Facility is a CAA minor source, they received a State Only Natural Minor Operating Permit (#43-00360) from PADEP on July 1, 2021.

B. Inspection Opening Conference

At 9:28 am on September 14, 2022, EPA inspectors arrived at the Facility for a CAA Inspection and conducted an opening conference. Cronimet Specialty Metals USA, Inc. was represented by Tina Shacklock, General Manager, Cronimet -Wheatland and Buck Baldwin, Consultant, Envirothink. Mark Novak and Rob Recker, Air Quality Inspectors of PADEP, were also present. EPA inspectors, Stafford Stewart, and Paul Arnold presented their credentials and explained the purpose of the visit was to conduct a CAA inspection to determine compliance with their permit and any applicable CAA regulations. EPA inspectors also explained that photographs would be taken. Additionally, EPA informed the facility representatives of their right to claim any confidential business information (CBI). At that time, Cronimet – Wheatland did not claim any photos or documentation as CBI.

II. Site Activity/Process Description

Cronimet-Wheatland took over ownership of operations at this location in 2016, the building was purchased in 2010 under the name Kalco Metals and the ownership was transferred in February 2016 to Cronimet Specialty Metals USA. The Facility is currently operating at about 74% capacity or 415,000 lbs/month, full capacity is 560,000 lbs/month. Operational hours are Mondays to Fridays, three shifts for 24 hours, 365 days per year, there is no shut down for maintenance or holidays. Occasionally the Facility operates on Saturdays, due to business demands. There are currently 30 full time employees.

Cronimet-Wheatland is a metal alloy manufacturing facility. Cronimet melts nickel, chromium, copper, iron and cobalt stock to produce ingots, metallic powders and sieved or foundry shots that are sold to the casting industry. The Facility purchases scrap metal from about 100 suppliers, that includes foundries and scrap brokers, to be used for melting in electric induction furnaces. Raw materials arrive at the Facility via truck. The composition of the scrap metal purchased varies from year to year, but approximately 30-40 % consists of cobalt and nickel. Cronimet-Wheatland also purchases pure metal for use as additives to make specific alloys. Granular metallic pieces are also purchased in super sacks to be used in the production of fine powder in a ball mill. The raw materials are purchased by the Facility based on the chemical composition of the metal and the content is verified in the Facility's lab prior to production. Even when the Facility purchases "certified" scrap it is tested in their lab upon receipt for verification.

After analysis of the scrap, and prior to the production of shots and ingots, a technician in the alloy blend system (ABS) builds the recipe to produce alloy according to customer specifications. The scrap is then transferred on pallets to one of four electric induction furnaces for heat treatment or melting. Each of the furnaces has a 2000 lb metal melting capacity, however only two of these furnaces can be used simultaneously, since two furnaces share a single power supply for electricity. Emissions from these furnaces are controlled by a single baghouse, there are dedicated hoods that exhaust to the baghouse. After heat treatment the molten material being used to produce ingots is then poured into ceramic molds and allowed to cool before being analyzed for chemical composition to determine if the desired specification has been met. If the desired specification is achieved the finished product is shop blasted, to remove any sand or residue, packed, labeled, and shipped off to customers. Material which does not meet specification is sent back to be reworked. Shots are produced in the same area, however the Facility representative, Buck Baldwin, stated that shot production was currently not operating.

The raw material to produce metallic powder is purchased in granular form. It is fed to the ball mill where it is milled into a fine powder. The powder is then conveyed to a shaker table to be sized after which it is packaged in a drum or super sack for shipment to the customer. The ball

mill processes about 300 tons per year of material. Air pollution control equipment associated with the ball mill operation consists of dust collectors equipped with cartridge filters. Hoods are located above the entrance and exit of the ball mill and particulate emissions are collected through the hoods to a dust collector which is located indoors and exhausts to the outdoors.

The Facility's finished product consists of ingots, four different types of shots (pellets) and metallic powder.

The Facility maintains three natural gas fired 300,000 Btu/hr wall heaters and three 100,000 Btu/hr radiant heaters that are used for comfort heat. There is a 1.5 million (M) Btu/hr natural gas-powered dryer that is used to dry the shot produced after it is cooled in water. Any emissions from this source are exhausted via a stack that is located at the side of the building. Additional sources at the Facility include a shakeout area that consists of a vibrating table equipped with screens to sort the sieved shot into different sizes, there is no air pollution control device associated with this operation. There is a 3,500 cubic feet per minute (cfm) tumblast (shot blast) machine that is used to produce the shots, emissions from the tumblast are controlled by a dust collector equipped with cartridge filters. The dust collector is located indoors, but exhausts to the atmosphere. The garage doors adjacent to the area of this operation are left open during the summer months while the shot blast is in operation. There are also three torches that are used to cut the metal purchased for testing and for use in the furnace. The natural gas fired torches are also used for maintenance and are rated at 35,000 Btu/hr, 150,000 Btu/hr and 150,000 Btu/hr, they may be used periodically to cut large pieces of metal that are too large for melting in the furnaces. A sand mixing area used to produce molds contains a high-speed mixer for the resin used, a sand hopper for holding 1 super sack of sand and an electric sand heater to pre-heat the sand. The resin used in this process is a potential source of VOCs due to the 0.1 to 1.0% formaldehyde that it contains. The sand mixing operation is equipped with a dust collector with filter cartridges that is located indoors but exhausts to the atmosphere. There are no boilers or generators in use at this Facility.

The opening conference concluded at 10:23 am.

III. Observations

EPA inspectors were led on a walkthrough of the Facility at 10:25 am by Tina Shacklock of Cronimet-Wheatland and Buck Baldwin of Envirothink. Mark Novak and Rob Recker of PADEP and Stafford Stewart and Paul Arnold of EPA were also present for the walkthrough. EPA inspectors noted photos would be taken during the Facility walkthrough (Attachment 2).

The plant walkthrough began with a tour of the shipping and receiving dock area, finished products and raw materials were observed in drums, pallets, and totes in this area. The raw materials included scrap metal as well as pure metallic cobalt (Co), nickel (Ni) and tungsten (W) that were stored in drums. The next area inspected was the raw materials staging area, the inspection team observed metal fragments stored in drums and totes, and metal ingots that will

be cut, melted, and reworked. In this area the raw materials are arranged for the next step in the process, which is heat treating (melting), and moved by fork trucks on pallets to the melt shop for processing. The heat make-up area was then inspected. At this point the recipe sheet for production is generated, this includes the percentage of each ingredient required for the product being manufactured. The inspection team then proceeded to tour the melt shop. Two areas were inspected, the ingot making area, and the area where water is doused on the molten product to begin the cooling process. The inspection team was able to observe the four Inductotherm model VIP Melt System furnaces. According to the Facility representative, Tina Shacklock, the furnaces each have a 2,000 lb metal melting capacity. She also stated that only two furnaces can be operated at one time since these electrical furnaces are paired to a single power supply for electricity. During the time of the inspection, only one of the furnaces was operating. The raw materials were being melted in crucibles after which the molten product was poured into molds to produce 15-lb ingots. The inspection team observed the hood above the furnaces which collects emissions and exhausts to a baghouse. The hood is shared by two of the furnaces and is mounted on a swivel to rotate above whichever furnace is being used so that any emissions generated are exhausted to the baghouse labeled C101.

The next area inspected was the “shake out area”. This area houses a vibrating table that is equipped with screens to sort the shots produced into different sizes after it is dried. There are no air pollution control devices associated with this operation. The inspection team then observed the shot blast operation, this is the process where any sand or residue is removed from the ingots. A dust collector was observed that controls particulate emissions. The dust collector is vented to the atmosphere through a stack. The mold production or sand mixing area was inspected next, here a resin and sand mix is fed into a high-speed mixer to produce the molds into which the molten metal is poured to form the 15-lb ingots. There is a dust collector associated with this operation that exhausts indoors. The wash station area was inspected, here a water/vinegar mix is used to shine the finished products for shot production. This was followed by an inspection of the shot dryer area, where shots are dried by a 1.5 MBtu/hr natural gas fired heater before being transferred for sorting. There is a cyclone associated with shot dryer process that appears to control particulate matter emissions, this piece of equipment is not listed in the Facility’s permit. From the shot tank the materials are transferred hydraulically to a hopper then dropped by gravity to a shaker where it is separated by cyclonic action into finished goods or residue (bottoms). The bottoms can be discarded or re-used depending on its contents.

The ball mill area was inspected next. The raw materials, purchased in granular form, are fed to the ball mill which mills the granular pieces into fine powder, the powder is then conveyed to the shaker table to be sized and is then packaged in drums or supersacks and shipped by trucks to the customer. The plant walkthrough concluded with a visit to the melt shop to observe the production of ingots, the inspection team observed how the molten metals were removed from the crucibles in the furnace by the operators and then poured into molds before being conveyed for cooling.

The walkthrough concluded at 11:57 am.

IV. Records Review

The records review commenced after the plant walkthrough at 1:20 pm. EPA inspectors reviewed documents requested in the 9/8/2022 email to Tina Shacklock (see Attachment 1). Records were provided at the time of the inspection by Tina Shacklock and Buck Baldwin. Below are the records requested and what was provided:

1. A process flow diagram or facility floorplan/layout. *A facility floorplan was provided during the inspection.*
2. All stack test/emission test results for any/all pollutants tested. *N/A. The facility stated that stack tests are not required under the facility's minor operating permit.*
3. If Cronimet has ever submitted an initial notification and/or compliance statements for any NESHAP or NSPS, please have a copy of these available for review. *N/A. The Facility is not currently subject to any NESHAP or NSPS regulations.*
4. If Cronimet has ever submitted an air permit application, or RFD, please have a copy available for review. *A copy of the May 2016, air permit application was made available.*
5. Provide a copy of Cronimet's current air operating permit. *The State Only Natural Minor Operating Permit 43-00360, effective date July 1, 2021, was made available for review.*
6. Provide a record of annual facility air emissions, from January 2019 to present, for all regulated air pollutants (NO_x, VOCs, HAPs, and PM). *This information was provided via email after the inspection on 9/23/2022.*
7. Provide a listing of all onsite boilers, emergency generators and all other internal combustion sources. Please include details such as fuel combustion type, installation dates, engine size, and boiler rating and all NSPS and NESHAP regulations applicable to those engines, internal combustion units and boilers. *The Facility representative stated that there are no boilers or emergency generators on site and the four induction furnaces are powered by electricity. A listing was provided that included three 300,000 Btu/hr gas fueled wall heaters used for comfort heat and a 1.5 million Btu/hr natural gas fired dryer.*
8. Provide annual fuel usage for any onsite internal combustion sources, including boilers and emergency generators. Exclude fuel combustion used for comfort heat. *N/A. There are no boilers or emergency generators. Fuel usage for the 1.5 million Btu/hr natural gas fired dryer was provided from 2019 to present.*
9. Provide a copy of the sulfur content of all oil deliveries, if applicable, from 2019 to present. *N/A. Natural gas is used to power the dryers, heaters, and torches.*
10. Provide a listing of all air pollution control devices. Please include make, model, control/removal efficiency and installation date. *This information was provided for review. This included the induction furnace baghouse (C101), the dust collector for the shot blast operation (C103), the ball mill dust collector (C104) and the dust collector associated with the sand mixer (C105)*
11. Provide all records required by the current air operating permit, including, but not limited to; pressure drop, VOC, NO_x, HAP and PM emission limits, VE readings, VOC content of coatings. *Records included the emission estimates for May 2019 to April 2020 for VOC, NO_x, SO₂, CO and PM.*

The following additional records were requested and reviewed:

1. Monthly inspection and maintenance records from 1/2019 to 9/2022 for: the dust collectors, the tumblast machine, the ball mill, the sand mixers, and the electric induction furnaces
2. Records of the magnehelic gauge readings (in H₂O) and compressed air readings (psi) for the induction furnace vent system from 1/2019 to 9/2022
3. Daily preventative maintenance inspection records for the Schust Baghouse (Source C101) from 1/2019 to 9/2022

V. Closing Conference

After the records review, EPA inspectors, Tina Shacklock of Cronimet-Wheatland, Buck Baldwin of Envirothink and Mark Novak and Rob Recker of PADEP had a brief closing conference to ask additional questions and discuss observations. The EPA inspectors noted that the investigation is on-going, and any areas of concern identified in the final reports do not necessarily reflect a violation or deviation, rather, they are areas that will require further investigation. EPA also noted that they would issue an inspection report within in 60 days, with a copy to the State. Simultaneously, EPA will perform a detailed review of records and may have additional questions. The inspection concluded at 2:55 pm.

The following have been identified as *potential* issues during the inspection. They are issues that require either further investigation by EPA or additional information or explanation by Cronimet – Wheatland.

- Annual emission records for HAPs, VOCs, PM, and NO_x will be reviewed for potential regulatory applicability – 40 CFR Part 63 Subpart EEEEE (NESHAPS for Iron and Steel Foundries) or 40 CFR Part 63 Subpart FFFF (NESHAPS for Integrated Iron and Steel Manufacturing Facilities)
- The function of the cyclone associated with the shot dyer at Source 003 will be reviewed, the Facility states that it is part of the shot production process. This equipment is not listed in the Facility's permit.

VI. List of Attachments

- Attachment 1: Email correspondence to Tina Shacklock of records requested to review during inspection
- Attachment 2: Photo Log